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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

LIU, SHUWANG

ART UNIT PAPER NUMBER

2634

DATE MAILED: 09/05/2003

18

Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary

Application No.

10/005,483

Applicant(s)

SNELL ET AL.

Examiner

Shuwang Liu

Art Unit

2634

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 June 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-133 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 30-35 and 91-95 is/are allowed.
- 6) ☒ Claim(s) 1-29, 36-90 and 96-133 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 November 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 10. 6) ☐ Other:

DETAILED ACTION

Drawings

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the "AC coupling", "header modulator means", "header demodulator means", "preamble modulating means", "preamble demodulator means" and "second carrier tracking loop" (for example, see claims 1-11) must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 251

2. Claims 123-133 are rejected under 35 U.S.C. 251 as being based upon new matter added to the patent for which reissue is sought. The added material which is not supported by the prior patent is as follows: The specification (COL. 5, LINE 37-COL.6, LINE 33. FIG.2) does not describe "encoding a sequence of N-bit second data symbols, where N is greater than 1, from said binary information within said data field by generating for each of said N-bit second data symbols one of a set of 2^N chip sequences generated at the same chip rate as said spreading sequence; and applying

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the spread-spectrum encoded symbols of said header field and the selected chip sequences of said data field to the I and Q inputs of a phase shift modulator to produce said rf signal" as recited in claims.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 1-29, 36-90 and 96-133 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

(1) regarding claims 1-29, 36-90 and 96-122:

There is no adequate description to describe how the modified Walsh code or orthogonal codes reduce average DC signal components as recited in claims. An Examiner had addressed the same question in the previous office action (paper #6) for the original application. The Applicants argues that "It is evident through the specification that the modified Walsh code function correlator uses the modified Walsh code and reduce **the signal component (which naturally is the average DC signal component)**." The Examiner did not find any description in the specification to teach

the modified Walsh code is for reducing the signal component (**which naturally is the average DC signal component**). It is also unclear what the signal component means.

(1) regarding claims 17-29 and 78-90:

The specification does not describe “reducing an average DC signal component to thereby increase AC-coupling” as recited in claims 17 and 78.

(2) regarding claims 123-133:

The specification (COL. 5, LINE 37-COL.6, LINE 33. FIG.2) does not describe “encoding a sequence of N-bit second data symbols, where N is greater than 1, from said binary information within said data field by generating for each of said N-bit second data symbols one of a set of 2^N chip sequences generated at the same chip rate as said spreading sequence; and applying the spread-spectrum encoded symbols of said header field and the selected chip sequences of said data field to the I and Q inputs of a phase shift modulator to produce said rf signal” as recited in claims.

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 1-29, 36-90, and 96-126 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

(1) regarding claims 1-29, 36-90, and 96-122:

It is unclear what “reducing an average DC signal component” as recited in claims refers to. The DC signal component is refers to be contained in the input signal

(information) received from the radio circuit, in modified Walsh code or in the output of the demodulator. It is also unclear what signal the reducing is relative to.

(2) regarding claims 17-29, 78-90:

It is unclear what the "increase AC-coupling" means.

(3) regarding claims 44-61:

Claim 44 recites the limitation "said radio circuit" in line 5. There is insufficient antecedent basis for this limitation in the claim since there is no any radio circuit introduced before.

(4) regarding claims 123-126:

Claim 123 recites the limitation "the selected chip sequences" in lines 11-12. There is insufficient antecedent basis for this limitation in the claim since there is no any selection introduced before.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

8. Claims 36, 41, 43, 44, 53-55, 61, 97, 102, 104, 105, 114-116 and 122 are rejected under 35 U.S.C. 102(e) as being anticipated by Honkasalo et al. (US 6,567,389

B1) (whereby the reducing DC signal components is interpreted to be reduce a signal component, for example a Walsh code).

(1) regarding claims 36 and 97:

As shown in figures 11-13, Honkasalo et al. discloses modulator for a spread spectrum radio transceiver, said modulator comprising:

modulator means (figures 12A and 13)for spread spectrum phase shift keying (PSK) modulating information for transmission, said modulator means comprising at least one predetermined orthogonal code function encoder (60 and 62) for encoding information according to a predetermined orthogonal code (modified Walsh codes) for naturally reducing an average DC signal component (column 8, line 26-column 9, line 42).

(2) regarding claims 41 and 102:

wherein said at least one predetermined orthogonal code function correlator comprises inherently: a predetermined orthogonal code function generator (figure 13) column 8, lines 41-50); and

a plurality of parallel connected correlators (62₁, 62₂ ...) connected to said predetermined orthogonal code function generator (Walsh Function 1 ...).

(3) regarding claims 43 and 104:

wherein the predetermined orthogonal code is a bi-orthogonal code (Walsh code is bi-orthogonal code).

(4) regarding claims 44 and 105:

A demodulator for a spread spectrum radio transceiver, said demodulator comprising:

demodulator means (12B) for spread spectrum phase shift keying (PSK) demodulating information received, said demodulator means comprising at least one predetermined orthogonal code function correlator (67 and 69) for decoding information according to a predetermined orthogonal code for naturally reducing an average DC signal component (column 8, line 26-column 9, line 42).

(5) regarding claims 54 and 115:

wherein said at least one predetermined orthogonal code function correlator comprises:

a predetermined orthogonal code function generator (67); and
a plurality of parallel connected correlators connected (69) to said predetermined orthogonal code function generator.

(6) regarding claims 53 and 104:

wherein the predetermined orthogonal code is a bi-orthogonal code.

(7) regarding claim 55 and 116:

A method for baseband processor for spread spectrum radio communication, the method comprising the steps of:

spread spectrum phase shift keying (PSK) modulating information (figures 12 A and 13) for transmission while encoding the information according to the predetermined orthogonal code for naturally reducing an average DC signal component (column 8, line 26-column 9, line 42); and

spread spectrum PSK demodulating (figure 12B) received information by decoding the received information according to the predetermined orthogonal code.

(8) regarding claims 61 and 122:

wherein the predetermined orthogonal code is a bi-orthogonal code (Walsh code is bi-orthogonal code).

Allowable Subject Matter

9. Claims 30-35 and 91-95 are allowed.

10. The following is a statement of reasons for the indication of allowable subject matter: the prior art fails to teach a baseband processor comprises a demodulator, which is configured to demodulate data packets by demodulating the header at the third format and for switching to the respective one of the first and second formats of the variable data after the header, a first carrier tracking loop for the third format, and a second carrier tracking loop for the first and second formats.

Conclusion

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shuwang Liu whose telephone number is (703) 308-9556.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Chin, can be reached at (703) 305-4714.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks
Washington, D.C. 20231

or faxed to:

(703) 872-9306 (for Technology Center 2600 only)

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.



Shuwang Liu
Primary Examiner
Art Unit 2634

August 28, 2003